BERMUDA

REPORT

OF THE

DEPARTMENT

OF

AGRICULTURE

FOR THE YEAR

1953

COMMONWEALTH MYCOLOGICAL INSTITUTE
2 - AUG 1955

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BOARD OF AGRICULTURE, 1953.

Chairman.

Mr. H. St. G. Butterfield, from 1st Jan.to 12th May

Col. J. C. Astwood, O.B.E., M.C.P, from 12th May.

Members.

C. Vail Zuill, Deputy Chairman.

J. B. Ferguson	W. T. Wilson
Ford Baxter	Abel Benevides
L. R. Selley	E. H. Simons
S. John Pye	H. T. North, M.C.P

DEPARTMENT OF AGRICULTURE 1953

(Civil Service List)

Director of Agriculture	W. R. Evans
Asst. Director of Agriculture	G. R. Groves
Plant Pathologist	A. G. Dustan (Acting)
Government Veterinary Officer	E. R. Earl, V.S.,B.V.Sc.
Horticulturist	C. A. Baker
Agricultural Assistant	C. V. S. Early
Inspector of Produce	T. A. Hollis
Assistant Horticulturist	J. H. Jones
Clerk to Board	Miss C.E.King (Acting)

(Not on Civil Service List)

Marketing Officer	J. H. Hollis until 31st July
	F. C. Hollis as of 1st Aug.
Assistant Marketing Officer	F. C. Hollis until 31st July
	J. H. Hollis as of 1st Aug.
Accountant	Mrs. I Kellaway as of 9th May (Acting)
Reafforestation Officer	G. S. G. Scott (as of 26th Jan)

REPORT OF DIRECTOR OF AGRICULTURE

FOR THE YEAR 1953.

The Chairman, Board of Agriculture.

I have the honour to submit the Annual Report on the activities of the Department of Agriculture, for the year 1953, in compliance with the Agriculture Act, 1930.

FARM CONDITIONS.

The farmers of the Colony enjoyed a fairly productive year. Weather conditions during the crop seasons were generally favourable, and the Spring potato crop proved one of the most productive in many years. The Government Marketing Centre was swamped with produce grown under contract during the latter part of May, and large quantities of potatoes, which normally would have been stored under refrigeration, had to be held in ordinary storage for several weeks. Under these conditions, there was unavoidable loss due to storage rot.

The outstanding problem of the farming community in this day and age is that of labour. The growing prosperity of the tourist industry in recent years has attracted labour from the farms, because of the higher wages and easier working conditions existing in that industry. Not withstanding the fact that about one hundred and eighty eight contract labourers from the Azores have been brought into the Colony specifically for farm work since 1949, a large number of them have drifted away from their original employment to take more remunerative work in other fields. This is a problem that must be solved by stricter control of imported labour, if farming is to survive and hold its own as an economic factor in the community.

The encroachment on farming land by building operations, which has gone unnoticed for several years, is now becoming manifest, and the situation threatens to become an important factor in diminishing the farming potential of the Colony. It is always an incentive to construct buildings on level sites where erection costs are more favourable to the builder, but very expensive to the community as a whole, in the loss for ever of farming land. It is to be hoped that this very important factor in the long term economy of the Colony will not be neglected in future years, as the need for the conservation of farming land is rapidly becoming an all important necessity.

AGRICULTURAL STATION.

The hurricane which passed over the Colony on the 17th September caused but minor injury to plant growth, but it caused the loss of half the roof and other superficial damage to No. 2 Packing House, now used as a general purpose shed. Crop damage generally was slight, because the hurricane came at a time when plantings for the season had just commenced, but the citrus crop suffered severely.

A fire which broke out suddenly in a building, which housed the garage and workshops, on the 10th July completely destroyed half the structure and several implements, and considerable equipment. The damage estimated at £5,000 was partly covered by insurance.

A new slathouse situated north of Montrose Orchard, the construction of which was commenced during 1952, was completed and put into service following the holding of the Agricultural Exhibition on the 24th April.

The Orchid House, which has proved a great attraction to visitors to the Agricultural Station, was completely re-roofed and slightly re-designed. The Orchid collection was added to during the year by sixteen new species and varieties of Cyprepedium secured in England.

The rainfall recorded at the Agricultural Station during the year totalled 55.29 inches. The highest rainfall in any month was 13.99 inches in October, and the lowest was in July with 1.40 inches.

PLANNED PRODUCTION AND MARKETING.

The production of produce arranged for under contract with farmers, and the marketing of the same through the facilities of the Government Wholesale Marketing Centre functioned quite smoothly throughout the year, except for a brief period in July and August when it was discovered that the purchases of produce under contract had exceeded the appropriation of funds for that specific purpose. Temporary arrangements were made to provide for the emergency and as soon as the Legislature convened in October a supplementary appropriation was obtained and the situation reverted to normal by the time the Fall crops were ready for marketing.

It is interesting to note that thirty four varieties of vegetables and fruits, totalling one and a half million pounds in weight, were handled through the Marketing Centre during the year.

REAFFORESTATION.

At the end of the year, nearly two thirds of the Colony's Highways had been cleared of dead cedars to a depth of fifty feet on either side of the roads. The clearance of the dead cedars to date has considerably enhanced the outlook along the highways of the Colony and the danger of dead trees falling on power and telephone lines has been largely eliminated since the hurricane, which passed over the Colony on the 17th September and caused many of the dead trees in the uncleared areas to fall over and to disrupt traffic and snarl public communications. In the wake of the hurricane the public utilities had to disintangle their lines from hundreds of fallen trees, and three reafforestation gangs were placed at the disposal of the Bermuda Electric Light and Telephone Company to assist in clearing up the road obstructions, which kept the gangs from following their regular work for the best part of a week.

The replanting of areas cleared of dead cedars has not kept pace with the tree removal work because of the difficulty encountered in recruiting suitable labour for this work.

The areas embracing Long Beach in Warwick and West Church Bay in Southampton were cleared and landscaped in such a way as to permit visitors to the Colony to enjoy the surroundings to the best possible advantage.

A major operation was effected in the Old Government Park in the town of St. George. The Park and the adjoining areas of the St. Georges Grammar School and the Parish Poor House were cleared of dead cedars and subsequently the old park, with labour supplied by the Senior Training School, was relandscaped. The Park was officially opened on the 3rd June by His Worship, the Mayor of St. George.

The Plant Nursery supporting the Reafforestation programme was a centre of activity throughout the year, and a total of 17,921 plants of various kinds were distributed from here to individuals and various organizations.

CITRUS CULTURE.

The Department continued to render assistance to citrus growers during the year. The control of diseases and pests is undertaken by the Department by arrangement with the Bermuda Citrus Association for an annual fee of from four to ten shillings per tree. Normally under this arrangement the plantings registered receive three sprayings during the year, which involved the use of sixty seven thousand gallons of water, two thousand, seven hundred and eighty pounds of insecticide, and four hundred and thirty two gallons of miscible oil. Even the intensive programme undertaken was not completely satisfactory and in some instances repeat sprayings had to be undertaken. At the close of the year, experiments were being carried out with a recently introduced insecticide called Malathion with encouraging results.

The sale of fertilizer direct to the growers, which has been the practice since the inclusive fee for fertilizing and spraying was discontinued, has now reached such volume that it must be discontinued or extended as an interdependant service. The continued expansion of this service has outgrown our existing set-up, and we must either provide properly for its expansion or stop it altogether.

Orchard maintenance, a service the Department performs for growers for a hiring fee has reached such proportions that with limited amount of labour available we are unable to cater to all who desire the service.

Consequent upon the decision not to import further trees from abroad, efforts were made to provide for local propagation to take care of future requirements. The initial effort to bud locally on rough lemon stock proved rather disappointing with the result that there will be a delay of another two years before citrus stock will be available to the public, and that is contingent on the development of a satisfactory budding technique which is not yet existent.

PLANT DISEASES AND PESTS.

Biological Control.

Importation, rearing and liberation of various insects, parasites and predators from California, Trinidad and Hawaii were continued throughout the year in an attempt to control such injurious species as the Citrus Mealybug, the long-tailed Mealybug, scale insects of various species, the Canna lily skipper, the Harlequin bug and others. This was

carried on in co-operation with the Commonwealth Institute of Biological Control. Considerable time was devoted to the study of the green shield scale, Pulvinaria psidii Mask, which has in recent times been attacking oleanders and certain other host plants. Particular attention was given to the study of the life history, habits, distribution and control of this species.

Chemical Control.

A comparatively new insecticide called Malathion was experimented with during the year with encouraging results. The green shield scale, Pulvinaria psidii Mask which for the past few years has become a rather serious pest in the Colony, was brought under control by Malathion spray powder, applied at the rate of 6 lbs. to 100 gallons of water. The spray had little effect on the eggs, but a few of the young crawlers were killed when they came in contact with Malathion on the egg-mass.

Malathion was also found effective in controlling the Harlequin Bug when sprayed on turnip greens supporting a heavy infestation of the insect. The insecticide was applied at the rate of 1½ pints to 100 gallons of water when the insects were feeding normally on the leaves. Both adults and nymphs were killed but the eggs were unaffected.

Yellowing (Chlorosis) of Lilies.

The condition known as Chlorosis of lilies due to lack of iron in the soil in available form, which has baffled lily growers for many years, is now nearer solution. Two proprietory materials containing iron known as Sequestrene NaFe and Ferrogreen along with three others, were applied to a field of Bermuda Easter lilies badly affected with Chlorosis. Plots dusted with Sequestrene NaFe showed noticable improvement in two weeks and within four weeks the plants had regained their normal colour. The Ferrogreen was also effective, but a little slower.

Weed-Control.

An experiment in weed-control was carried out with two herbicides, namely 2-4-D and C M U on ground planted in Easter lilies. The lilies were planted in mid-November and the chemicals were sprayed on the ground but once, two weeks later when the weeds began to appear, but before the lilies had broken through the soil.

Good control of the weeds was secured with 2-4-D and C M U applied at the rate of two pounds per acre and one pound per acre respectively. At least three months after treatment the treated plots were relatively free from weeds, whereas the untreated check plots were smothered by weed growth.

HEALTH OF ANIMALS.

Tuberculosis in Cattle.

During the year under review, 1,318 head of cattle were tested for tuberculosis, mainly by the intradermal test supplemented by the subcutaneous or temperature test. It is gratifying to note that only four (4) reactors were found and all were from one herd which has had rather a bad record for reactors.

Brucellosis (Bang's Disease).

Calfhood vaccinations supplemented by the vaccination of adult cattle during the last two years appears to have been successful in eliminating abortion and difficult breeding. The Government Veterinary Officer reported sixty five (65) calfhood vaccinations and one hundred and forty (140) adult cattle vaccinations during the year, the latter being confined to three herds which had previously given trouble.

Hog Cholera.

The use of modified live virus vaccine for the control of hog cholera appears to have been successful. Out of six suspected occurrences of hog cholera investigated during the year, only once was the presence of cholera established. By the prompt use of serum and the vaccination of all hogs in the immediate neighbourhood, the disease was contained successfully.

AGRICULTURAL EXHIBITION

The nineteenth Agricultural Exhibition, held under the distinguished patronage of His Excellency the Governor, Lt. General Sir Alexander Hood, C.B.E., K.C.B., was successfully staged on the 22nd, 23rd and 24th April. In the absence of His Excellency the Governor, the Honourable J. T. Gilbert, Q.C., Chief Justice of Bermuda, opened the Exhibition at 3 O'Clock in the afternoon of the first day, where a large audience had gathered to listen to His Honour's excellent address.

While the total number of exhibits was a little less than the all time record, the quality of the exhibits was uniformally good and the staging was excellent in every department. Two local organizations, the Bermuda Garden Club and the Bermuda Poultry Fanciers Society, undertook to take full charge of the staging of the exhibits of flowers and poultry, respectively, thus relieving the Department of much work. The Ring events, dog show and other sectional activities were managed by special committees, all of which did excellent work. Altogether, over 350 people helped towards the success of the exhibition, as superintendents, judges, etc. and a successful climax was reached on the third day when it was ascertained that over twelve thousand people had paid admission to the grounds during the three days of the event.

CORONATION OF HER MAJESTY QUEEN ELIZABETH II.

This historical event was celebrated by commemorative planting on a fairly large scale. Several weeks earlier than the eventful day, June 2nd, 1953, the Department encouraged the planting of trees to commemorate the auspicious occasion and free plants were made available to all who wished them. No particular plant was specially selected for the purpose, because it was felt that a greater success would ensue by selecting plants most suitable to the environments where they were to be planted. As a result, many more people were able to participate in the planting and the final outcome was most gratifying. Suitably inscribed commemorative plaques were imported from the United Kingdom, which were made available to the public by the Department at

a nominal price.

His Excellency the Governor and Lady Hood very graciously consented to plant two commemorative trees at Government House, and during a Garden Party held at Government House on Coronation Day, two Giant Yews, Podocarpus macrophylus were planted on the second lawn where later Her Majesty in person planted a similar tree.

VISIT OF HER MAJESTY QUEEN ELIZABETH II.

The Board and Department of Agriculture were greatly honoured during Her Majesty's visit to the Colony on the 24th November, in that Her Gracious Majesty and her Consort, His Royal Highness, the Duke of Edinburgh drove through the Agricultural Station during their tour of the Island. It was gratifying to note that Her Majesty was observant of the landscape during her fleeting drive through the Agricultural Station, as at the Garden Party at Government House later in the afternoon, while speaking to the Director of Agriculture, she mentioned the exotic beauty of the Agricultural grounds, and expressed her regret that she could not see more of it.

During the Garden Party, held at Government House in the afternoon of the 24th November, Her Majesty and her Consort each graciously planted a tree on the second court yard in front of Government House to commemorate the unique occasion. Because of the devastating effect of the cedar infestation on the grounds of Government House, two evergreen trees, Podocarpus Macrophylla, were selected for the planting and it is to be hoped that they will long thrive to adorn the grounds of Government House and radiate happy memories of a reigning monarch, the first to visit Bermuda in its long history.

FINANCE.

The statistics appended have been compiled from records kept at the Department of Agriculture.

It will be seen by Appendix "B" that the total allocation for 1953 was £149,928. 0. 0. of which £124,783. 13. 8. was expended. The Departmental Receipts for the resale of vegetables and other public services rendered, amounted to £42,507. 8. 11. If the receipts are deducted from the total expenditures, it will be observed that the total operating cost of the Department of Agriculture for 1953 was £82,276. 4. 9.

STAFF.

1. Mr. Gordon R. Groves, Assistant Director of Agriculture, was absent on leave in the United Kingdom from the 21st July to 24th October.

2. Mr. T. A. Hollis, Inspector of Produce, was absent on leave in Canada from 21st September to 19th October inclusive.

3. Mr. C. V. S. Early, Agricultural Assistant, was absent on leave in Canada from 3rd August to 27th September inclusive.

4. Mr. J. Hubert Jones, Assistant Horticulturist, was granted leave of absence from 19th September to 1st October to visit the West Indies.

5. Miss Catherine Elizabeth King, Acting Clerk, Board of Agriculture, was absent on leave without pay, in the United States, from 22nd March to the 5th April inclusive.

6. Mr. James H. Hollis, Marketing Officer, was granted sick leave from 12th June to 5th July inclusive. His Excellency the Governor approved the resignation of Mr. Hollis from office from 1st August.

7. Mr. Francis Carlyle Hollis, Assistant Marketing Officer, was granted local leave of absence from 5th to 18th October inclusive.

8. Mr. Gordon S. G. Scott, Reafforestation Officer, was absent on leave in Canada from 19th to 31st December inclusive.

9. Mr. Alan G. Dustan acted as Plant Pathologist from 1st January to 14th April inclusive, and from 11th November to 31st December.

10. Mr. Arthur Kelsall acted as Plant Pathologist from 15th April to 16th June.

11. Mr. Idwal Wyn Hughes acted as Plant Pathologist from 16th June to 10th September.

12. Mr. F. D. Bennett acted as Plant Pathologist from 11th September to 10th November.

ACKNOWLEDGEMENT.

I wish to record my appreciation to individuals and institutions who have rendered assistance to the Department in various ways during the year. I am very grateful to you and other members of the Board of Agriculture, who have helped me with their suggestions and constructive criticisms at all times.

Respectfully submitted,

W. R. Evans
Director of Agriculture

APPENDIX "A".

SUMMARY OF RECEIPTS FOR YEAR 1953.

Vote 2 (a)	Packing House	Nil	
2 (b)	Marketing Centre	£ 37,662. 0.3	
2 (c)	Citrus	£ 139. 9.0	
2 (d)	Other Receipts	£ 4,705.19.8	£42,507.8.11.

It should be noted that in the receipts from the Marketing Centre, 2 (b), there are inadvertently included large amounts which belong under other headings: i.e. - sale of containers for packing vegetables, vegetables produced at the Agricultural Station, fertilizer for citrus growers and receipts from cold storage operations; in effect, the sale of vegetables grown under contract and otherwise were effected on 5% over cost basis.

APPENDIX "B".

EXPENDITURE FOR PERIOD JANUARY 1ST TO DECEMBER 1953.

Vote	Services	Amount of Vote	Expenditure	Balance Lapsing
1.	Fees to Members	300.0.0	165.12. 0	134. 8. 0
2-12	Salaries Est. Officers	9937.0.0	9910. 2. 6	26.17. 6
13-15	Salaries Non Est.Officers	2730.0.0	2651.18. 8	78. 1. 4
16.	Bonus to Established Offs.	888.0.0	878. 8. 6	9.11. 6
17.	Bonus to Non Est.Officers.	273.0.0	265. 3.11	7.16. 1
18.	General Grant	5000.0.0	4972. 3. 1	27.16.11
19.	Control of Animal diseases & improvement of livestock	500.0.0	427.14. 6	72. 5. 6
20.	Control of Plant diseases & pests.	700.0.0	478. 3. 9	221.16. 3
21.	Horticulture	3800.0.0	3797. 9.10	2.10. 2
22.	Government House Gardens	3000.0.0	2999. 7. 1	12.11
23.	Contingencies, travelling expenses etc.	400.0.0	382. 4. 9	17.15. 3
24.	Packing House supplies & Marketing investigation	1000.0.0	543. 0. 7	456.19. 5
25.	Cold Storage Plant Operat:	3500.0.0	2989. 6. 7	510.13. 5
26.	Upkeep & Operation of Agricultural equipment.	5500.0.0	5458. 0. 1	41.19.11
27.	Purchase and storage of Agricultural supplies	600.0.0	46.18. 4	553. 1. 8
28.	Purchase & storage of Potatoes & other Ag.Prod:for resale.	40000.0.0	24555.14. 4	15444. 5. 8
29.	Agricultural Scholarships	400.0.0	- - -	400. 0. 0
30.	Agricultural Exhibition	1500.0.0	1229. 0. 0	270.11. 0
31.	Biological control of insects	6000.0.0	2657. 0. 8	3342.19. 4
32.	Reafforestation & Roadside planting.	56900.0.0	55184. 0. 4	1715.19. 8
33.	Service to Citrus growers	3000.0.0	1522. 1. 3	1477.18. 9
34.	Publications	400.0.0	118. 0. 0	282. 0. 0
35.	Agricultural & Horticultural Ext. work.	500.0.0	495. 7.10	4.12. 2
36.	Maintenance of grounds of Sessions House & Secretariat	750.0.0	743.10. 5	6. 9. 7
37.	Complet:of Quick freeze rooms	1750.0.0	1748. 5. 8	1.14. 4
38.	Purchase of Motor Van	600.0.0	564.10. 0	35.10. 0
		£149928.0.0	124783.13. 8	25144. 6. 4

APPENDIX "C".

PRODUCTION OF GROUND CROPS, ANIMAL PRODUCTS AND LIVESTOCK POPULATION.

CROPS.

A. Vegetables.

Commodity	Area under crop.exp. in acres.	Avg.yield per acre in lbs.	Total yield in lbs.	Unit value	Farm value
Beans	42	4,000	168,000	1s 6d	£ 12,600
Beets	27	8,000	216,000	7d	6,300
Broccoli	22	2,500	55,000	1s 6d	4,240
Cabbage	55	10,000	550,000	7d	16,041
Carrots	60	12,000	720,000	8d	24,000
Onions	18	10,000	180,000	8d	6,000
Potatoes, Irish	280	10,000	2,800,000	5d	58,300
Potatoes, Sweet	60	8,000	480,000	6d	12,000
Tomatoes	45	9,000	360,000	1s 4d	24,000
Miscellaneous	50	8,000	400,000	7d	11,666
Bananas	140	20,000	2,800,000	8d	93,333
	799		8,729,000		£ 262,810

B. Citrus.

Area under cultivation in acres	No. of trees.	Avg.yield per tree in dozens	Total yield in dozens.	Unit Value	Farm value
80	11,200	6	67,200	6/-	£20,166

C. Lily Bulbs and Flowers.

Area under cultivation in acres	No. of bulbs planted	No. of bulbs exported.	Value	No. of flowers exported.	Value
29	1,450,000	107,800	£4,286	2,831,000	£26,684

No. of Flower stems exported.	Value	Total value of all lily products
32,500	£8,894	£39,864

ANIMAL PRODUCTS.

A. Milk.

Total Production expressed in gallons	Value.
620,253	£ 165,400

ANIMAL PRODUCTS
(continued)

B. Meat Products.

Beef in lbs.	Value	Veal in lbs.	Value	Pork in lbs.	Value	Poultry in lbs.	Value
115,500	£8,662	36,800	£2,760	381,980	£31,831	100,000	£20,000

C. Eggs.

Expressed in dozens	Value
320,000	£96,000

LIVESTOCK POPULATION.

A. Dairy Animals.

Cows	Heifers	Bulls	Total
1,275	150	22	1,447

B. Horses.

Farm and Truck	Carriage	Race Horses	Total.
65	30	50	145

C. Pigs.

Sows.	Boars	Store Pigs	Piglets	Total
320	60	500	800	1,600